

May 8, 2002

Paul Lariviere, P.E.
Division Administrator
Federal Highway Administration
Room 614, Federal Building
Augusta, Maine 04330

RE: Aroostook County Transportation Study, Aroostook County, Maine, Draft Environmental Impact Statement (EPA ERP# FHW-B40091-ME)

Dear Mr. Lariviere:

The Environmental Protection Agency-New England Region (EPA) has reviewed the Federal Highway Administration's (FHWA)/Maine Department of Transportation's (MDOT) Draft Environmental Impact Statement (DEIS) for the consideration of various transportation corridor improvements intended to improve mobility and efficiency within northeastern Aroostook County and to enhance connections between the U.S. and Canada for the purpose of supporting and fostering economic growth. We submit the following comments in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The underlying premise of the DEIS is that the 2760 square mile study area in Aroostook County has an inadequate transportation system limiting access, mobility, and economic opportunity. The analysis lists elements of need for a transportation project that include: the long term loss of population in the county; a higher than average unemployment rate combined with a low rate of job growth; a lack of diverse jobs to attract and retain workers; and the desire to reduce travel times for goods to market, travel distances and improve access to jobs. The study identifies a range of alternatives expected to satisfy the purpose and need including a no-build alternative and four transportation corridors. They include Corridor H modified (Hm) and K modified (Km); both of which are characterized by up to 82 miles of new roadway on new alignment and bypass construction, and Composite Corridors 1 and 2 characterized by differing amounts of new proposed roadway, upgrade work along existing alignments, and bypass construction. For impact analysis purposes, the DEIS explains that upgrade corridors were assumed to be 150 feet wide while the width of new location corridors was set at 300 feet. The study was conducted with the premise that future analysis of the preferred corridor would be done in a separate NEPA process to investigate alignment alternatives and design features such as cross-sections, intersections and bridge designs, and to more precisely analyze the impacts of the alternative alignments.

EPA typically reviews transportation projects proposed to remedy identified traffic problems related to capacity, congestion or safety. However, this transportation study is not driven by any of these inherent problems. Instead, the goals of the study are to determine ways that transportation improvements could present economic opportunities for the region. In our view, the DEIS represents the first step in a tiered process identifying transportation improvements that might achieve the project purpose. One of the clearly stated objectives of the DEIS is to “solicit comments from federal and state agencies, and from the public” to assist the FHWA/MDOT in their efforts to identify a preferred corridor. EPA reviewed the DEIS with this interest in mind and offers comments to help direct future work to consider transportation improvements in Aroostook County. Based on our review, it is clear that each of the alternatives has great potential for significant impacts and could affect the environment and residents of Aroostook County in many ways. Future analyses will be critical to determine whether any of the work within the alternative corridors is viable in an environmental, social and regulatory context.

Alternatives & Impacts

The DEIS analyzes the no-build alternative and four build corridor alternatives. Corridor Hm is 99 miles long and is best characterized as a new location highway between I-95 in Smyrna Mills and Route 1 in Madawaska. Corridor Km is also a new highway alignment extending 95 miles between I-95 at Houlton and Route 1 in Madawaska. This corridor is intended to improve access to I-95 and address bottlenecks at various locations along Route 1. Composite Corridor 1 combines upgrades of existing highways in the 140 mile corridor with limited new highway and bypass construction. Composite Corridor 2 features many of the same elements as Composite Corridor 1 in the northern section of the study area and a new highway on new alignment in the southern half.

The DEIS concludes that each corridor studied gives: a) reductions in travel distance (vehicle miles traveled, VMT); b) similar travel time savings; c) improved mobility, and; d) north/south access to activity centers. The specifics of how well each alternative functions from a transportation standpoint varies in the case of average regional travel time savings from 33 minutes for Corridor Hm to 17 minutes for Composite Corridor 1, while the reduction in total vehicle hours traveled is relatively consistent between alternative corridors. Moreover, the comparison of VMT shifts from lower capacity roads to higher capacity shows that the two Composite Corridors would lead to slightly greater shifts than Corridors Hm and Km. The analysis suggests that “there is comparatively little difference among the corridors’ aggregate impacts on the economies of Aroostook County or the State of Maine.” This fact is demonstrated by the DEIS account of relatively similar numbers of projected jobs to be created, and similarities in the projected population changes associated with each corridor.

While each build alternative would be expected to have a range of land use, economic and cultural effects, both positive and negative, Composite Corridor 1 is expected to affect the greatest number of

buildings¹ and farm fields. Any conclusion that this alternative is more damaging than others based on the total number of farm fields or acres of farm field affected is misleading (for example, the total amount of active farm land area to be affected ranges from a low for Corridor Hm of 413 acres to 670 acres for Composite Corridor 1) and may be in error as many of the impacts associated with this corridor would occur in areas already impacted by existing roadways. In many of these instances the net ecological, economic and agricultural effect of these impact fringe impacts is significantly less than those associated with construction of a new alignment roadway. The same relationship, i.e. that impacts associated with the work to upgrade existing roadways are likely to be less than those associated with a new alignment, also holds true for the wetland impacts that are described at a general level in the DEIS. The DEIS generally recognizes this principle on page 2-39 which states, "Impacts along new location highways are likely to be more severe than those along upgrades."

Even though the tiered analysis sets the stage for future analysis by providing general information about each corridor, it forces decision-making based on the consideration of macro-level environmental and socioeconomic impact information, little information regarding secondary impacts, and only a generic discussion of mitigation. Therefore, the analysis provides little, if any, insight regarding whether potentially significant impacts to wetland resources, water supplies, and communities can be mitigated leaving questions about the likely regulatory status of each option unanswered. Moreover, the analysis postpones the investigation of alignment alternatives and other design features (cross-sections, intersections, bridge designs) for future NEPA analysis. This approach is not problematic as long as the analysis fully recognizes that the regulatory status of any alternative that advances remains uncertain, and as long as the future NEPA analysis is a full and adequate environmental review, most likely an EIS given the scale and size of all of the alternatives.

In our experience it is critical to consider smaller scale upgrades (i.e. something inherently less intrusive than a 4 lane divided highway cross section) to determine whether a four lane cross section, with its increased environmental and social impacts, is indeed warranted to achieve the intended outcome. Such an approach also promotes avoidance of environmental resources and greater flexibility to avoid structures and other cultural elements. Moreover, this type of analysis is more important for Aroostook County given the lack of a compelling need to resolve any congestion/capacity problems in the study area.

Based on consideration of the information presented in the DEIS we believe that Composite Corridor 1 should be seriously considered for future study if the FHWA/MDOT decides to advance a project or projects in the county. The similarity of the four build alternatives to achieve the project purpose and provide transportation benefits in the study area ends once environmental comparisons are factored into

¹ Buildings are defined for the purposes of the EIS analysis as structures including outbuildings, garages and barns within the corridor. No breakdown of the type of impact within this category is provided, however.

the analysis. Our conclusions are primarily based on Composite Corridor 1's reduced potential to affect wetland resources, and avoid further fragmentation of existing agricultural land and aquatic and terrestrial habitat. Our preliminary conclusion does not come without significant concerns relative to wetland impacts and mitigation, water supply and ground water resources and secondary impacts. Extensive work remains to be done before any informed decision-making can occur regarding Composite Corridor 1 and the projects it contains. We hope that our comments below, and in the attachment, help to direct some of that work.

Wetland Impacts

Section 4.4.2.4 of the DEIS, *Wetlands*, discusses the potential direct and indirect impacts upon wetland resources, and briefly addresses mitigation measures. Potential direct wetland impacts were assessed by overlaying the proposed corridors onto wetland resource areas as identified by the National Wetlands Inventory (NWI) maps. The assessment employed a 92 meter (300 foot) wide corridor for new highway links, and a 46 meter (150 foot) wide corridor for upgrades of existing highways.

Typically, NWI maps are only useful to identify wetland areas that are greater than 3 acres. Therefore we agree with the characterization provided in the DEIS that potential direct wetland impacts may have been underestimated (page 4-84). At this scale of assessment small yet valuable wetland resources (special aquatic sites) including vernal pools and the habitat they provide are likely undocumented. Future analysis associated with the project should map all vernal pool habitat and demonstrate that appropriate measures are employed to avoid and minimize impacts to these sensitive areas and adjacent upland areas that provide important overwintering habitat for many of the species they harbor. In addition to vernal pools, the analysis should quantify the direct impacts to each wetland type in the preferred corridor, and demonstrate that appropriate measures are employed to avoid and minimize impacts to these areas, as well.

The DEIS recognizes that direct effects to wetlands also includes the loss of principal functions and values. As you know, the analysis of wetland functions and values is a critical step in the process to evaluate alternatives and to define projects that are best able to avoid impacts and as part of the work to establish effective mitigation measures for unavoidable wetland impacts. Unfortunately, a discussion of impacts to wetland functions and values has been postponed until the future analysis of a preferred corridor commences.

Based on Table 4-26, *Potential Wetland Impacts*, Composite Corridor 1 directly impacts the least amount of wetlands (66.4 acres) relative to the three other build alternatives with impacts ranging from 120.1 acres and 166.3 acres. Corridors Km, Hm, and Composite Corridor 2, would have the greatest impacts to undisturbed wetlands, while Composite Corridor 1 would primarily impact previously disturbed wetlands (i.e. wetlands impacted by the construction of an existing road). In particular, Corridor Km would impact 124 acres of undisturbed wetlands along new location corridors, Hm would impact 127.3 acres of undisturbed wetlands with new location corridors (barring 0.1 acres of pre-disturbed wetland), and Composite Corridor 2 would impact approximately 106 acres of undisturbed wetlands.

As stated previously, based upon our experience with highway projects throughout New England, it is EPA's conclusion that upgrade alternatives, which meet the project purpose and are practicable, typically result in less adverse impact to the wetland and aquatic ecosystems than new location highways which affect undisturbed aquatic, wetland and terrestrial ecosystems. Although Composite Corridor 1 compares more favorably in terms of the total amount of direct wetland impact incurred than the other build corridors, the direct wetland impacts associated with this alignment potentially represents one of largest acreage impact (during the Clean Water Act era) from a highway project in New England. While we support the selection of Composite Corridor 1 for additional analysis, we do so lacking enough information to determine whether impacts in that corridor may cause or contribute to significant degradation of the aquatic environment. For instance, we anticipate that impacts incurred from Composite Corridor 1 along Route 161 in the vicinity of the Madawaska Lake and Square Lake/Cross Lake Wetland Complex would be of special concern. There is an extensive wetland system north of Rte. 161 at Madawaska Lake, which includes deer wintering yards and inland wading bird habitat. The DEIS describes the Square Lake/Cross Lake Wetland Complex as one of the largest contiguous wetland complexes in the study area, and was identified as a key resource given its large size, diversity of wetland types, and high functional value. Furthermore, achieving successful compensation for such extensive losses associated with ecologically important wetland complexes would be especially difficult.

The DEIS states (section 4.4.2.4, pages 4-84 to 4-85) that the loss of wetlands in undisturbed areas may have a greater effect on the functions and values of wetlands by fragmenting wetland systems, creating edge habitat, or introducing exotic species than the loss of wetlands adjacent to existing highways. EPA agrees with this conclusion. We also agree with statements in the DEIS that highway construction, by affecting water quality, could also affect wetlands and their functions (section 4.4.2.1; page 4-76). The DEIS concludes that Corridors Hm and Km, and Composite Corridor 2, contain the greatest length of new location corridors and therefore have the potential to affect the largest number of undisturbed wetlands. Again, EPA agrees with this conclusion and remains concerned about the magnitude of impacts from construction along new location corridors.

Regulatory Concerns

The Clean Water Act § 404(b)(1) guidelines prohibit the discharge of dredged or fill material if there "is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem so long as the alternative does not have other significant adverse environmental consequences." [40 CFR 230.10(a)]. This fundamental requirement of the '404 program is often expressed as the regulatory standard that a permit may only be issued for the "least environmentally damaging practicable alternative" or LEDPA. "Practicable" is defined as "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall [or, basic] project purposes." [40 CFR 230.3(q)]. For "non-water dependent" activities located in wetlands or other special aquatic sites, the guidelines presume that practicable alternatives exist and that such alternatives would be less damaging to the aquatic environment. The burden to demonstrate compliance with the alternatives test and rebut the presumptions rests with the applicant.

Based on our review of the general information in the DEIS, it is clear that corridor alternatives Km, Hm, and Composite Corridor 2, relative to Composite Corridor 1, would not meet the fundamental requirement of § 404 as the LEDPA. However, EPA's detailed analysis of the project relative to the requirements of § 404 will take place at the time of the more detailed environmental review in the future.

Mitigation

Pursuant to the § 404(b)(1) Guidelines, all appropriate and practicable efforts are required to be made to avoid and minimize impacts to the aquatic environment before considering compensatory mitigation efforts such as restoration, creation or enhancement. The DEIS states that after the selection of a Preferred Corridor, alignment alternatives will be designed to avoid and minimize wetland impacts, and mitigation will be provided for unavoidable impacts. EPA believes that specific compensatory mitigation proposals are best planned and evaluated after determining the extent and nature of unavoidable adverse impacts. Information should be provided in subsequent NEPA analysis to demonstrate that mitigation of unavoidable wetland impacts is feasible. At a minimum, the analysis should include a list of potential sites and actions that could be taken to provide mitigation. The NEPA process can be an effective forum for discussions of mitigation and the development of appropriate mitigation plans. These plans should address (among other things): clearly defined mitigation objectives; monitoring plans to document the progression of the mitigation site (typically for five years); a contingency plan for failure of the site or inadequate plant coverage (including possible regrading and plantings); and a contingency plan for the invasion of exotics into the mitigation area. EPA recommends that the MDOT coordinate closely with the Corps, EPA and other federal and state resource agencies during the development of the mitigation plans. Again, we emphasize the importance of providing thorough wetland characterizations, including functions and values assessments, for adequate mitigation. The wetlands, and associated functions and values being lost provide the framework for developing clear objectives in any mitigation plan.

Finally, we note that the DEIS does not address mitigation costs or specific design measures presumably because the study is at a macroscale level. The DEIS recognizes that after the selection of a preferred corridor alternatives within that corridor will be developed to avoid wetland impacts, and explore design options to minimize impacts. EPA cautions that mitigation for this project is likely to be extensive, and therefore expensive. For reference, wetlands mitigation for the Maine Turnpike widening, which began in the late 1990's and presently continues, impacted approximately 26 acres of (primarily forested) wetland. Compensation for these impacts included the following: 25 acres of wetland restoration/creation with 52 acres of surrounding upland and wetland preservation; 96 acres for an offsite preservation parcel that was valued for the abundance and integrity of vernal pool and endangered turtle habitats; and, an 88 acre corridor preserved along the Kennebunk River consisting of riparian and upland habitats. We agree with statements in the DEIS that locating suitable sites for restoration may be difficult given the relatively undeveloped nature of the study area (page 4-87). Thus, we suggest that mitigation be approached in the same comprehensive manner as the search for alternatives, and, if necessary, not be strictly confined to the final corridor selected.

Secondary Effects

The DEIS identifies that the purpose of this study is to evaluate transportation alternatives that would improve the region's economy by improving transportation mobility. Addressing secondary impacts is a critical component of this analysis given its focus on economic development in this region of Maine. Moreover, the FHWA/MDOT is obligated to identify and disclose the expected secondary impacts of each of the four build alignments under consideration to illustrate how each alternative impacts the environment and contributes to or undermines livability in Aroostook County. Unfortunately, the discussion in the DEIS of secondary and cumulative impacts is inadequate. It is our impression that the general statements provided in the DEIS (pages 4-110 and 4-111) could be written about virtually any highway project anywhere in the country--they provide no specific information about what will happen in Aroostook County as a result of each of the four alignments. The analysis should have translated expected changes in population and employment under each of the alternatives into environmental impacts. For example, if the highway improvements (either new alignments or upgrades) spur automobile-dependent strip commercial development, this will lead to impacts in terms of air quality and polluted runoff. If the highway improvements result in population growth in the area, that will be accompanied by development and subsequent impacts on wetlands and other natural resources. It is these kinds of impacts that need to be identified and quantified to the extent possible. Finally, once the impacts have been identified, mitigation measures should be proposed to address the impacts. These measures should include efforts to increase the capacity of local officials to shape land use, direct development towards suitable areas, to protect important natural resources and to manage the growth which is sure to come from increased transportation efficiency.

Water Supply

Based on our analysis it appears that all four corridors have the potential to impact public drinking water supplies (and private wells). Based on information currently available in the DEIS, Corridor 1 has the greatest potential to impact public drinking water supplies as the corridor contains three public drinking water wells and traverses two wellhead protection areas. This corridor also has the potential to impact private wells, sand and gravel aquifers and already degraded surface water supplies. Subsequent NEPA analysis should include more detail to determine the nature of potential impacts and to determine whether viable options exist to mitigate the long and short term impacts to these identified resources. In particular the analysis should pay close attention to opportunities to upgrade the existing storm water management network associated with existing highway corridors in proximity to drinking water supply sources.

DEIS Characterization of Critical Impacts

EPA takes exception to the characterization of the types of impacts that would be considered "critical" in the state and federal review process. The report identifies transportation effects, economic effects, impacts to land use, historic resources, public parks/recreation areas, floodplains, wetlands, wildlife habitat, air quality and noise as the issues that are the most important and which receive the greatest attention from federal review agencies. The DEIS also indicates that other areas of impact such as minority populations, uncontrolled petroleum and hazardous wastes, water resources, aquatic habitats, vegetation, fisheries and

endangered and threatened species are not critical in the state or federal review process and are not likely to be controversial. We do not agree with these general characterizations and remind the FHWA/MDOT that the issues of concern for each project are dictated by the environmental conditions where the project is proposed and the nature of the work itself.

Conclusion/Rating

Given the extensive impacts, significant project costs, and the lack of compelling congestion or safety needs identified for the corridors studied in the DEIS, we remain convinced that a great deal more work is warranted to demonstrate whether such a large scale project, or projects within a corridor could be implemented without significant impacts. The DEIS explains that there are only minimal differences in transportation performance across the four corridors studied and that the average index ranking across all economic variables illustrates that Composite Corridor 1 performs best, but differences among all four corridors is narrow. Based on these facts, and others, it is clear that environmental factors will be especially important in making any final decisions regarding corridor selection. Based on the information provided, we are confident that Composite Corridor 1 warrants additional study. Our conclusion is based on the corridor's potential for reduced environmental impacts (in comparison to the other corridors), its compatibility with existing MDOT plans, its ability to utilize existing highway alignments, serve activity centers in the north, and reduce traffic volumes in corridor towns. However, it is important to recognize that the potential impacts associated with this corridor, once fully articulated, may be determined to be too great for the project to advance.

Our NEPA responsibilities require EPA to review and rate all federal agency EISs according to a national system to promote national consistency in federal environmental reviews. Because the final corridor is not specified, and alternatives within that corridor are not yet developed, however, we are rating the overall project "Environmental Objections–Insufficient Information" (see attached rating sheet for a fuller explanation of this rating). This rating should not be construed to mean that the problems with the DEIS are unresolvable. It only indicates that this macro-level EIS analysis, as written, either identifies impacts that might violate environmental standards (this is especially true for potential wetland impacts for all the corridors that may be unpermittable under Section 404), or that more information is necessary to fully understand the effects of the project. The DEIS contains enough information to suggest that Corridors Hm, Km or Composite Corridor 2 may be unsatisfactory from the standpoint of environmental quality and that they would be likely to receive an adverse rating if they were advanced through the NEPA process.

EPA appreciates the opportunity to comment on the DEIS for this ambitious project and looks forward to working with the FHWA/MDOT and other parties (or stakeholders) as more analysis is conducted to more fully understand the impacts of transportation projects within Aroostook County. A primary focus for any future NEPA analysis should be on providing greater detail, more information about how potentially damaging alignments can be avoided and how unavoidable impacts can be mitigated. We look forward to reviewing responses to the issues and concerns highlighted in this letter and technical attachment and to continued work with you and other federal, state and local agencies with a strong interest in a

comprehensive environmental review of this project. Please feel free to contact Jeanne Voorhees of EPA's Office of Environmental Protection at 617-918-1686 or Timothy Timmermann of EPA's Office of Environmental Review at 617-918-1025 with any questions or comments regarding this letter.

Sincerely,

Robert W. Varney
Regional Administrator

cc:

Raymond Faucher, Maine Department of Transportation
Jay Clement, Army Corps of Engineers, Maine Project Office
Wende Mahaney, United States Fish and Wildlife Service
Don Witherell, Maine Department of Environmental Protection

Additional Detailed Comments
Aroostook County Transportation Study
Draft Environmental Impact Statement
Aroostook County, Maine

Purpose and Need Statement

The precept identified in the study is that Aroostook County has an inadequate transportation system limiting access and mobility to, from and within the county, thereby, limiting economic opportunity. An inadequate transportation system is one factor that may impact economic opportunities. However, it is also recognized that other factors are important in determining the overall economy of a region.

Additional justification of this precept would appear to be warranted given the complexity associated with resolving Aroostook County's economic situation and long-term loss of population. In some cases, the DEIS attempts to explain how transportation improvements will help remedy/alleviate these economic and demographic issues in Aroostook County (see Section 1.2.2.). However, there is a concern that the DEIS fails to make adequate arguments directly correlating the relationship between the economic and demographic issues with inadequate transportation. For example, the analysis argues that the existing transportation facilities could be a factor inhibiting the continued growth of the tourism industry (see Section 1.2.2.2). This statement itself recognizes that there are other factors involved in the growth of Maine's tourism industry other than transportation. Similarly, the DEIS attempts to correlate increased commuting times with decreased income values (see Section 1.2.2.1). It could be argued that other independent factors exist which influence the income value other than commuting time (Section 1.2.2.1). Whether commuting time is the dominant factor influencing income value needs to be justified.

Preliminary Screening Analysis

During the Economic Screening Analysis (Section 2.3.2.2; page 2-8) of the initial 40 alternatives several general assumptions were made, including the following:

“For corridors with the same general termini (e.g., Houlton to Presque Isle), new corridors were assumed to generate slightly higher Vehicle-Miles Traveled and Vehicle-Hours Traveled savings, better access and higher potential economic benefits, than upgrades of existing highways.” (See page 2-8).

The basis for this assumption is not clear in the analysis and should be explained as application of this assumption could have introduced bias early into the analysis favoring new corridors versus upgrades to existing highways.

Intermediate Screening Analysis

The DEIS graphically illustrates the results of the Regional Corridor Analysis (Section 2.5.2, Figures 2-23 to 2-31). This analysis examined each of the regional corridor alternatives relative to three factors: serving the Purpose and Need of the project, cost, and environmental impacts. The DEIS defines two Composite Corridors 1 and 2 without providing an explanation of the decisions ultimately used to define these corridors. Examination of Composite Corridor 1 would apparently indicate that the basis for selecting Corridors A/B, H/L and D, E, I for the southern, central and northern sections respectively, was based on serving the Project's Purpose and Need because each of these corridors ranked the highest for this factor. Composite Corridor 2 consists of corridors H, H/L, and D,E, I in the southern, central, and northern sections, respectively. However, the decisions used to select these corridors also are not clear. Please clarify the basis for defining these two Composite Corridors, and explain why other potential composite corridors were not defined or considered.

Wildlife Impact

Section 4.4.4.2, *Wildlife Habitat*, states that habitat loss may be more severe for new location highway corridors than upgrades, since areas directly adjacent to existing highways are impacted by the existing road and provide lower-quality habitat. EPA agrees with this conclusion, and the conclusion that Corridors Km, Hm and new alignment portions of Composite Corridor 2 would have the highest impacts to wildlife. By contrast, Composite Corridor 1 would have fewer wildlife impacts since the areas adjacent to the existing routes are already impacted.

Water Supply

The following comments identify where additional information on public drinking water supplies is needed. These comments also include contact information for Maine state programs where additional information is available.

Identification of Wellhead Protection Areas

The DEIS documents the existence of wellhead protection areas but does little to explain how far the planned construction areas will be located from existing or proposed wells. While we understand that this is the nature of the macroscale analysis it makes analysis of impacts difficult. Any public wells located within *twenty-five hundred (2,500) feet* of the planned construction area should be included in this inventory to conform with the Maine Source Water Protection Area protocol.

Private Well Impacts

The DEIS does not estimate how many private wells would potentially be affected by any of the proposed corridors. We disagree with characterizations in the analysis that this information is outside the scope of analysis and suggest that any future analysis include the best available information available to document the number of private wells within or adjacent to the construction area.

Ground Water Monitoring

If blasting is needed near any potable water supply well the DEIS EPA suggests pre- and post- blasting water quality analysis. These water quality analyses should include at a minimum: turbidity, odor, color, escheria coliform, fecal coliform, iron and manganese. Raw water samples collected from the subject supplies should be analyzed for these parameters in accordance with state and federal (SDWA) guidelines for water-quality sampling. The DEIS should also specify what other parameters will be monitored, if any, and how pre- and post-blast well yields will be measured in supply wells.

Surface Drinking Water Supplies (6) (p. 3-68, figure 3-20, p. 4-76, table 4-21, p 4-77)

All four study corridors cross watershed protection areas for public drinking water systems which rely on surface waters. Each of these water systems could potentially be affected depending upon the final project design and mitigation measures. While the DEIS also states that none of the corridors traverse any “at-risk” watersheds (as classified by the Maine DEP, Stormwater Program), the analysis identifies six (6) waterbodies in the study area which are listed on the Clean Water Act (CWA) 303 list for non-attainment of water quality goals (tables 3-38 and 3-39, pg.3-68, 3-70) or are identified by the Maine DEP as an “at-risk”, “sensitive or threatened” or “non-point source priority” waterbody (table 3-30, p. 30-71). These areas warrant significant attention during any future project analysis and consideration of mitigation measures. Please contact the Maine Drinking Water Program to ensure none of the corridors transect any of the following watersheds.

Water Supply	Town	Corridor	303 D List / State Water Quality Concern
Youngs Lake	Mars Hill	Km/CC1	State - At Risk
Presque Isle Stream	Presque Isle	Hm/CC2	Nutrients,Bacteria/State-Sensitive/NPS Priority
Aroostook River	Caribou	Hm/CC1/CC2	State-Sensitive
Pattee Brook	Fort Fairfield		State-Sensitive
Silver Stream Brook	Limestone		State-Sensitive/NPS Priority
Madawaska	St. John River	Hm/Km	Bacteria / State-Sensitive

As part of this effort we also suggest that the Maine Department of Human Services, Drinking Water Program be contacted for information regarding their recently completed watershed maps of surface waters which serve as public drinking water supplies. These maps are part of a drinking water source assessment program which will map these areas, assess the susceptibility of the drinking water supply to contamination and make those results available to the public by May 2003.

The Maine Drinking Water Program can also provide maps of the 178 delineated drinking water source protection areas which could be potentially affected by the project. The source water protection areas

for ground water supplies were revised in 2000. These revised maps may include expanded source water protection areas in some instances. Finally, please note that the Maine Drinking Water Program is responsible for administering Maine's public water supply regulations under the Safe Drinking Water Act.

Stormwater Mitigation

The DEIS states that more detailed analyses are needed to assess alignment alternatives to reduce impacts from highway run-off, erosion and sedimentation. Future analysis should also incorporate specific BMP's and alignment recommendations to mitigate highway run-off, erosion, sedimentation and water supply impacts *before* a preferred alternative can be selected. Maine state rules pertaining to stormwater management (Maine Stormwater Management Law and the Site Location of Development Law) are also being revised. These revisions will include new rules for construction activity. EPA recommends you contact David Ladd of the Maine DEP Bureau of Land and Water Quality for more information.

Air Quality

The DEIS fails to identify the Presque Isle Maine PM₁₀ (particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers) attainment area and its maintenance plan. EPA requests that Chapter 3 - Affected Environment, [3.5 Atmospheric Environment – 3.5.1 Air Quality, and 3.5.1.1 Air Quality Standards] be revised in future analysis to acknowledge the PM₁₀ National Ambient Air Quality Standards (NAAQSs), and specifically identify the Presque Isle PM₁₀ attainment area which has a maintenance plan. The Presque Isle PM₁₀ Area was re-designated to attainment by EPA on January 12, 1995 (60 FR 2885) effective February 13, 1995; and has an EPA approved PM₁₀ State Implementation Plan (SIP), and an EPA approved PM₁₀ Contingency Measures SIP.

Future analysis must also disclose any and all potential impacts proposed transportation projects may have on the Presque Isle PM₁₀ attainment area and its maintenance plans. Chapter 4 - Environmental Consequences and Mitigation, [4.5 Atmospheric Environment, 4.5.1 Air Quality, 4.5.1.1 Methodology, 4.5.1.2 Impacts, 4.6 Construction Impacts and Mitigation, 6.6.3 Air Quality, 4.10 Summary of Potential Study Commitments, and 4.10.11 Air Quality and Noise] should be revised to identify the Presque Isle Maine PM₁₀ attainment area and all potential project(s) impacts on this PM₁₀ area. In several locations the DEIS references improvements and upgrades to Route 1 in Presque Isle, a roadway which travels through the PM₁₀ attainment area.

If it is determined that transportation projects are proposed within the Presque Isle Maine PM₁₀ attainment area, the MDOT and FHWA must satisfy transportation conformity requirements (40 CFR 93.100 through 40 CFR 93.128) in accordance with Section 176(c) of the Clean Air Act. Any projects implemented in the PM₁₀ attainment area, within the twenty year time frame of the maintenance period, must be included in the area's conforming long range transportation plan and conforming transportation improvement program; must not interfere with the PM₁₀ control measures in the State Implementation Plan, must not cause or contribute to new violations of National Ambient Air Quality Standards (NAAQSs), and must

have completed the consultation process established by the transportation conformity rule.

Finally, the DEIS (Chapter 4/Section 4.5.1.1 page 4-101) states that a microscale (local) air quality analysis for carbon monoxide was conducted for the intersections of Route 1 (Main Street), Route 164 (Washburn Road), and Route 210 in Presque Isle. According to the analysis (Chapter 4, Section 4.5.1.2, page 4-101), “The results of the microscale analysis demonstrate that, under all future conditions, predicted CO concentrations can be expected to be substantially below the NAAQS of 35 (1-hour) and 9ppm (8-hour).” EPA requests that a summary table be provided in future NEPA analysis showing the one and eight hour CO values for the three intersections that were evaluated. Without reviewing the MOBILE5b and CAL3QHC modeling EPA can not make an independent determination that the analysis was appropriate. Moreover, EPA requests that all technical support documentation for the intersection carbon monoxide analyses be made available, including the MOBILE emission factors input files, the CAL3QHC Version 2.0 input and example output files, and technical assumptions and parameters. This information should be submitted to EPA and the Maine Department of Environmental Protection along with the project air quality analyses prior to the release of the FEIS. The technical support document must also be made available for public review.